50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Final Rule Listing the Tar River Spiny Mussel (Elliptio (Canthyria) Steinstansana) as an Endangered Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines the Tar River spiny mussle (*Elliptio* (*Canthyria*) *Steinstansana*) to be an endangered species. The species is currently known to be restricted to approximately 12 miles of the Tar River in Edgecombe County, North Carolina. Since the species has a restricted distribution, any factor that degrades water or substrate quality in this short river reach, such as land use changes, chemical spills, and increases in agricultural and urban runoff, could threaten the mussel's survival. This action will implement the protection provided by the Endangered Species Act of 1973, as amended, for the Tar River spiny mussel.

EFFECTIVE DATE: The effective date of this rule is July 29, 1985.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Asheville Endangered Species Field Station, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801 (704/259–0321 or FTS 672–0321).

FOR FURTHER INFORMATION CONTACT: Mr. Richard G. Biggins, Asheville Endangered Species Field Station, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801 (794/259–0321 or FTS 672–0321) or Mr. John L. Spinks, Jr., Chief, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235–2771 or FTS 235–2771).

SUPPLEMENTARY INFORMATION:

Background

The Tar River spiny mussel was first discovered in the Tar River, Edgecombe County, North Carolina, by Dr. Carol B. Stein in 1966. The species was subsequently recorded from the Tar River in Nash, Edgecombe, and Pitt counties, North Carolina (Shelley, 1972; Johnson and Clarke, 1983). The species was described by Johnson and Clarke (1983) as *Elliptio* (*Canthyria*) *Steinstansana*.

Data on the historical distribution of the Tar River spiny mussel are limited. However, it can be inferred from available records that the species inhabited the Tar River from Pitt County near Falkland, North Carolina, upstream through Edgecombe County to Spring Hope, Nash County, North Carolina as recently as 1966. According to recent Service-funded survey of the Tar, Neuse, and Roanoke Rivers in North Carolina, the known Tar River spiny mussel population (estimated at 100 to 500 individuals) is restricted to about 12 miles of the Tar River in Edgecombe County, North Carolina.

Aside from the Tar River spiny mussel, only two other freshwater spined mussels are known to exist: a small-shelled and short-spined species, *Fusconaia collina*, found only in the James River system in Virginia, and a large-shelled and long-spined species, *Elliptio* (*Canthyria*) *spinosa*, collected only from the Altamaha River system in Georgia. The shell size and spine length of the Tar River species is intermediate between these two species.

Because of its rarity, little is known of the Tar River spiny mussel's biology. The species has been collected on sand and mud substrates, and it has been suggested that the mussel's spines help it maintain an upright position as it moves through the soft substrate. Like other freshwater mussels, it feeds by filtering food particles from the water. Related species have a complex reproductive cycle in which the mussel larvae attach for a short time to a host fish species. The life span, the time of spawning, the host fish species, and many other aspects of the life history of the Tar River spiny mussel are still unknown.

The Tar River spiny mussel may have always existed in low numbers. However, the apparent recent reduction in its distribution and the extremely small population size make it vulnerable to extinction from a single catastrophic event, such as a tank-truck accident involving toxic chemical spill. The North Carolina Department of Natural Resources and Community Development (1983) reports of the Tar River: "Agricultural erosion rates are low, but loadings of nutrients and pesticides are above average." A hydroelectric project proposed for an upstream reservoir, a navigation and flood control project under consideration by the U.S. Army Corps of Engineers, and a stream obstruction removal project being conducted by the U.S. Soil Conservation Service could also impact the species if

the mussel's welfare is not considered during planning and implementation of these projects.

On March 5, 1982, the Service published a notice in the **Federal Register** (47 FR 9483) that a status review was being conducted for the Tar River spiny mussel. The notice requested data on the species' status and solicited information on environmental and economic impacts, plus the effects on small businesses that could result if the species were listed and its critical habitat were designated. A total of 24 letters were received by the Service in response to the notice of review. Only two respondents totally opposed the listing of the species, while five respondents felt more information was needed before further decisions were made on listing. Three of the comments involved questions concerning potential economic impacts of designating critical habitat, but these letters provided no information that the Service could use in making economic projections. Four comments identified potential projects and ongoing activities that could impact the species; ten responses stated they were aware of no project that might impact the species.

On May 22, 1984, the Service announced in a general notice of review of invertebrate wildlife published in the **Federal Register** (49 FR 21664) that substantial information was available to support proposing the Tar River spiny mussel for protection under the Act. On September 17, 1984, the Service published in the **Federal Register** (49 FR 36418) a proposed rule to list the Tar River spiny mussel as an endangered species. That proposal provided information on the species' biology, status, threats, and the potential implications of listing. The proposal also solicited comments on the species' status and threats to its continued existence.

Summary of Comments and Recommendations

In the September 17, 1984, proposed rule (49 FR 36418) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State and Federal agencies, county governments, scientific organizations, and other interested parties were contacted (the U.S. Soil Conservation Service, Edgecombe County Government, and Region L Council of Governments were also contacted in person) and requested to comment. A newspaper notice summarizing the proposed rule was published in the *Daily Southerner*, Tarboro, Edgecombe County, North Carolina, on October 4, 1984; a news release on the proposal was issued; and interviews of Service personnel on the proposed action were conducted by a local newspaper and a radio station. A total of 14 written comments were received. The comments are discussed below:

The Corps of Engineers (CoE), Department of the Army, stated that it had recently received a request from Pitt County, North Carolina, to enhance navigation and flood control on the Tar River in Pitt and Edgecombe Counties, North Carolina. CoE has requested our assistance in evaluating the potential impacts of this project on the spiny mussel. CoE further stated, "Although the listing of this species will have the effect of making our planning in the Tar River basin more time-consuming and would likely restrict some activities, we support the listing of this species due to its documented rapid decline, its severely restricted range, and the severity of the threat posed by the introduced Asiatic clam (*Corbicula fluminea*)." The Service believes that a navigation and flood control project through the Tar River spiny mussel's habitat could have severe impacts on the species. The Service has been in contact with CoE to assist it in its evaluation of effects on the mussel. The Service concurs with the CoE assessment that listing will increase the time required for planning and that some activities may be restricted. However, the Service has conducted thousands of consultations on listed species and has found that alternative methods for meeting project objectives that are compatible with protecting species are usually developed.

The Soil Conservation Service (SCS), U.S. Department of Agriculture, alerted the Service to a proposed stream obstruction removal project in Edgecombe County, North Carolina, that may impact the Tar River spiny mussel. This project is designed to provide for small-boat access to tributaries of the Tar River and is not expected to result in substantial habitat alterations. However, the Service agrees that the project could potentially impact the Tar River and the mussel. The Service has met with SCS and local governmental representatives to discuss the project's design. Through these meetings, the Service has learned that a pilot project will be conducted on a Tar River tributary that enters the river below spiny mussel habitat. Evaluation of this project by SCS and the Service will allow for needed modifications of future work.

The Federal Energy Regulatory Commission (FERC) reported on a hydroelectric facility proposed for the Tar River upstream of the spiny mussel's habitat. It stated that a license application had been received but was found deficient and returned to the applicant. The Service has been in contact with FERC and the applicant concerning this project and both parties are aware of potential impacts on the spiny mussel.

The U.S. Geological Survey, U.S. Department of the Interior, commented that it anticipated no conflict with any of its projects or studies.

The U.S. Nuclear Regulatory Commission stated that it had no facilities currently licensed or under review that would impact the Tar River spiny mussel.

The North Carolina Department of Natural Resources and Community Development, North Carolina Wildlife Resources Commission, two conservation groups, and one individual stated that they supported the listing.

The North Carolina Department of Transportation responded: "We do not anticipate any major conflicts between the U.S. Fish and Wildlife Service proposal and the transportation programs being planned by our agency." The Service concurs with this assessment.

The North Carolina State Clearinghouse reported that the proposed rule was submitted to the North Carolina Inter-governmental Review Process and no comments had been received.

The Region L Council of Governments, Rocky Mount, North Carolina, which provides regional planning for five North Carolina counties, including Edgecombe County, commented that it had received no negative comment on the information that it distributed on the Tar River spiny mussel. Its comments further stated: "You may use this letter to show no negative comments were received and thus there was no expressed opposition to the project."

One comment was received from an individual who thought that the species might inhabit a pond adjacent to the Tar River in Pitt County. The Service contacted this individual, and gave him a physical description of the Tar River spiny mussel. The individual then concluded that the mussel in the pond was not the spiny mussel.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined

that the Tar River spiny mussel (*Elliptio (Canthyria) steinstansana* should be classified as an endangered species. Procedures found at Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (49 FR 38900, October 1, 1984; codified at 50 CFR Part 424) were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in Section 4(a)(1). These factors and their application to the Tar River spiny mussel (*Elliptio (Canthyria) steinstansana*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Results of a recent Service-funded survey of the Tar, Neuse, and Roanoke rivers indicate that the Tar River spiny mussel (with an estimated total population size of 100 to 500 individuals) exists only in approximately 12 miles of the Tar River in Edgecombe County, North Carolina. This represents a significant reduction in known range, as historic records show the species was once also found both upstream (Nash County, North Carolina) and downstream (Pitt County, North Carolina) of its present range.

The species' restricted range makes it vulnerable to toxic chemical spills, which could result from traffic accidents involving trucks or any of the major highways that cross the Tar River. A single such event could cause total extinction of the species. The mussel is also threatened by other factors. A feasibility study is not being conducted of the possibility of hydroelectric power production at an upstream dam in Rocky Mount, North Carolina. Some alternatives being considered would restrict river flows on a daily basis to store water for peak power demands. Fluctuating river flows could impact the species by stranding individuals on sand bars and, if the river flows are reduced substantially, by affecting the species' water quality reguirements.

Pitt County, North Carolina, has requested the CoE study the feasibility of enhancing navigation and flood control in the Tar River. River and stream modification to achieve these ends could cause direct impacts on the species and its habitat, unless full consideration is given the spiny mussel's requirements.

SCS is removing obstructions to provide for passage of small boats in some tributaries of the Tar River. This project could have an impact on the mussel fauna of the Tar River if erosion and siltation related to the project are not controlled prior to an after project completion.

In a report prepared by the North Carolina Department of Natural Resources and Community Development (1983), the Tar River was characterized as having low agricultural erosion rates, but loadings of nutrients and pesticides were above average. The North Carolina Wildlife Resources Commission, in response to the Service's notice or review, stated that pumping large volumes of water from the Tar River during drought periods could threaten the species by decreasing water quality.

B. *Overutilization for commercial, recreational, scientific or educational purposes.* The specues has recently been described and its approximate range delineated (Johnson and Clarke, 1983). This notoriety for such a unique and rare mussel can be expected to increase colllection pressure from shell dealers and collectors. As the population is small, the removal of any individuals could seriously impact the species survival.

C. *Disease or predation.* There is no evidence of threats from desease or predation.

D. *The inadequacy of existing regulatory mechanisms.* North Carolina State law (subsection 113-272.4) prohibits collecting wildlife, which includes freshwater mussels, without a State permit. However, this State law does not protect the species' habitat from the potential impacts of Federal projects. Federal listing will provide protection for the species under the Endangered Species Act by requiring a Federal permit to take the species and requiring Federal agencies to consult with the Service when projects they fund, authorize, or carry out may affect the species.

E. *Other natural or manmade factors affecting its continued existence.* The Tar River has become infested by the Asiatic clam (*Corbicula fluminea*)—a species introduced from Asia. This non-native species may have an adverse effect on the Tar River spiny mussel's survival. The feeding activity of the Asiatic clam (which has densities estimated at 1,000 individuals per square meter (10.8 square feet) in some places) could reduce the availability of phytoplankton needed as a food source for the Tar River spiny mussel.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list the Tar River spiny mussel as endangered. The mussel's small population and present restricted range (12 river miles) make it extremely vulnerable to a single catastrophic event, and its range has greatly contracted within the immediate past. Threatened status would therefore not be appropriate. Critical habitat designation would not be prudent (see following Critical Habitat section). A decision to take no action would exclude the Tar River spiny mussel from needed protection available under the Endangered Species Act.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for the Tar River spiny mussel at this time. This rare mussel is very unusual, being one of only three known species of spined freshwater mussels. There is a small but significant demand by amateur and professional collectors for this species. Because of this, the Service believes a detailed description of the species' habitat, required as part of any critical habitat designation, could increase the species' vulnerability to illegal taking and increase law enforcement problems. Therefore, it would not be prudent to designate critical habitat for this species. Doing so would draw attention to the Tar River spiny mussel and risk depletion of an already limited population.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States, and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is designated.

Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402, and are now under revision (see proposal at 48 FR 29990; June 29, 1983). Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Federal activities that could impact the Tar River spiny mussel include, but are not limited to, the following: issuance of permits for hydroelectric facilities, stream alterations, enhancement of navigation, reservoir construction, wastewater facility development, flood control projects, and road and bridge construction on the Tar River. Three specific projects having Federal involvement have been identified that could impact the species: a hydroelectric project on the Tar River at Rocky Mount, North Carolina; a navigation and flood control project on the Tar River; and a stream obstruction removal project on Tar River tributaries. These projects and potential impacts on the species are discussed above. Modifications of these planned or ongoing activities may be necessary to protect the Tar River spiny mussel. It has been the experience of the Service that nearly all Section 7 consultations are resolved so that the species is protected and the project objectives are met.

The Act and implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined by the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to Section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

Literature Cited

Johnson, R.I., and A.H. Clarke. 1983. A new spiny mussel, *Elliptio (Canthyria) steinstansana* (Bivalvia: Unionidae), from the Tar River, North Carolina. Occasional Papers on Mollusks, 4(6):289–298.

North Carolina Department of Natural Resources and Community Development, Division of Environmental Management. 1983. Biological classification of streams and ponds in North Carolina—Documentation of impaired water use, July 1983, 335 pp.

Shelley, R.M. 1972. In defense of mollusks. Wildlife in North Carolina, 36:4–8, 26–27.

Author

The primary author of this final rule is Richard G. Biggins, Asheville Endangered Species Field Station, U.S. Fish and Wildlife Service, 100 Otis Street, Room 224, Asheville, North Carolina 28801 (704/259–0321 or FTS 672–0321).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. Amend § 17.11(h) by adding the following, in alphabetical order under "CLAMS," to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

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Species								
Common name	Scientific name	Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Clams							
Mussel, Tar River spiny	*Elliptio (Canthyria) steinstansana*	U.S.A. (NC)	NA	E	187	NA	NA

Dated: June 10, 1985.

J. Craig Potter,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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